

STRATEGIC AND CRITICAL MINERALS ACT OF 1990

OCTOBER 3 (legislative day, OCTOBER 2), 1990.—Ordered to be printed

Mr. JOHNSTON, from the Committee on Energy and Natural Resources, submitted the following

REPORT

[To accompany H.R. 4111]

The Committee on Energy and Natural Resources, to which was referred the act (H.R. 4111) to amend the Mining and Mineral Resources Research Institute Act of 1984, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the act do pass.

PURPOSE OF THE MEASURE

H.R. 4111, as reported by the Committee, amends the Mining and Mineral Resources Research Institute Act of 1984 (30 U.S.C. 1221) to direct the Secretary of the Interior to establish a Strategic Resources Mineral Technology Center for the purpose of improving and developing technologies to decrease U.S. dependence on strategic and critical minerals.

BACKGROUND AND NEED

There are currently six generic mineral technology centers located at various universities (see figure 1). The generic centers are authorized under Title III of the Surface Mining Control and Reclamation Act of 1977 (SMCRA), which established the State Mining and Mineral Resources and Research Institutes program ("mineral institutes program"). The mineral institutes program has been reauthorized several times since 1977 and most recently by Public Law 100-483 in 1988 for fiscal years 1990 through 1994.

FIGURE 1.—GENERIC MINERAL TECHNOLOGY CENTERS

Generic area	Lead institutions	Affiliates
Mine Systems Design and Ground Control.	Virginia Polytechnic Institute and State University.	University of Alabama. University of Alaska-Fairbanks. University of Arizona. University of Idaho. Southern Illinois University. University of Kentucky. University of Missouri-Rolla. University of Nevada-Reno. University of Utah. West Virginia University.
Comminution	University of Utah	University of California-Berkeley. University of Minnesota. University of Missouri-Rolla. Pennsylvania State University. Virginia Polytechnic Institute.
Mineral Industry Waste Treatment and Recovery.	University of Nevada-Reno	University of Alabama. University of California-Berkeley. Colorado School of Mines. Purdue University. University of Minnesota. University of Missouri-Rolla. Montana College of Mineral. Science and Technology. Columbia University. University of Oklahoma. University of Washington.
Pyrometallurgy	University of Missouri-Rolla	University of Arizona. University of California-Berkeley. Colorado School of Mines. Columbia University. University of Idaho. Southern Illinois University. University of Kentucky. Massachusetts Institute of Technology. University of Utah.
Respirable Dust	Pennsylvania State University	University of Minnesota. Massachusetts Institute of Technology. Michigan Technological University. West Virginia University.
Marine Minerals Technology	University of Mississippi	University of Texas-Austin. The following institutions that are not mineral institutes are affiliated with the generic center: University of Hawaii. University of Georgia. Louisiana Geological Survey. University of Michigan. Oregon State University.

The purpose of the mineral institutes program is to stimulate research and training of engineers and scientists in mining and minerals resources and technology through establishment of institutes in schools meeting certain criteria.

The mineral institutes program is funded through allotment grants to each participating institute, and research grants for specific mineral research and demonstration projects. Research grants currently are awarded competitively through the generic mineral technology centers.

The United States is dependent on foreign suppliers for many mineral resources. Mine production of cobalt, chromium, manganese, and platinum group metals, all essential to defense and to the civilian economy, is concentrated in the Soviet Union and southern Africa. Although in some cases these nations play only a limited role in the world supply of raw materials, for some materials the countries dominate the market. Dependence of the United States on a few nations of uncertain reliability for materials that are essential to many industrial and defense uses has lead to consideration of strategies to reduce United States reliance on uncertain sources of supply.

Public Law 100-483 required that the Committee on Mining and Mineral Resources Research (established by SMCRA) submit a proposal to establish a Generic Mineral Technology Center on Strategic and Critical Minerals. In a report transmitted to the Senate on January 11, 1990, the Committee stated that it was their belief that it was not advisable to create a generic center for strategic and critical minerals that was unfocused and potentially duplicative. If Congress mandates this generic center, the Committee recommended that the center be established and administered under the mineral institutes program using competitive processes starting with solicitations of proposals from the Mineral Institutes.

LEGISLATIVE HISTORY

H.R. 4111 was introduced in the House of Representatives on February 27, 1990. The House Subcommittee on Mining and Natural Resources conducted a hearing and reported the bill, as amended, on March 27, 1990. The House Committee on Interior and Insular Affairs reported the bill on April 26, 1990, and the House of Representatives passed H.R. 4111 on July 10, 1990.

H.R. 4111 was referred to the Committee on Energy and Natural Resources on July 11, 1990, and the Subcommittee on Mineral Resources held hearings on September 21, 1990.

COMMITTEE RECOMMENDATIONS AND TABULATION OF VOTE

The Senate Committee on Energy and Natural Resources, in an open business session on Wednesday, September 26, 1990, by unanimous vote of a quorum present, recommends that the Senate pass H.R. 4111 without amendment.

The roll call vote on reporting the measure was 19 yeas, 0 nays as follows:

YEAS

Mr. Johnston
Mr. Bumpers
Mr. Ford
Mr. Bradley
Mr. Bingaman*
Mr. Wirth*
Mr. Conrad
Mr. Heflin*
Mr. Rockefeller
Mr. Akaka*

NAYS

Mr. McClure
 Mr. Hatfield*
 Mr. Domenici
 Mr. Wallop
 Mr. Murkowski
 Mr. Nickles*
 Mr. Burns
 Mr. Garn*
 Mr. McConnell*

*Indicates proxy vote.

SECTION-BY-SECTION ANALYSIS

Section 1 is self-explanatory.

Section 2 amends the Mining and Mineral Resources Research Institute Act of 1984 by adding a new section at the end thereof. New subsection 12(a) provides that the Secretary of the Interior is authorized and directed to establish a Strategic Resources Mineral Technology Center for the purpose of improving existing, and developing new, technologies that will decrease the dependence of the United States on supplies of strategies and critical minerals.

New Subsection 12(b) self-explanatory.

New Subsection 12(c) provides that the Secretary shall establish the center referred to in subsection (a) at a university that (1) does not currently host a generic mineral technology center; (2) has established advanced degree programs in geology and geological engineering, and metallurgical and mining engineering; (3) has expertise in material and advanced processing research; and (4) is located west of the 100th meridian. It is the Committee's understanding that the Strategic Resources Mineral Technology Center will be a consortium, composed of a lead university and several cooperative affiliates. The Department of the Interior testified at the Subcommittee hearing that pursuant to this legislation, the degree to which a proposal for the Strategic Resources Mineral Technology Center brought in other qualified universities would be a factor in deciding who received the final award. All six of the current generic centers each have several affiliates.

New Subsection 12(d) authorizes to be appropriated such sums as may be necessary to carry out the section.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office:

U.S. CONGRESS,
 CONGRESSIONAL BUDGET OFFICE,
 Washington, DC, September 27, 1990.

Hon. J. BENNETT JOHNSTON, Jr.,
*Chairman, Committee on Energy and Natural Resources, U.S.
 Senate, Washington, DC.*

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.R. 4111, the Strategic and Critical Minerals Act of 1990.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER,
Director.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: H.R. 4111.
2. Bill title: The Strategic and Critical Minerals Act of 1990.
3. Bill status: As ordered reported by the Senate Committee on Energy and Natural Resources on September 26, 1990.
4. Bill purpose: H.R. 4111 would authorize the Bureau of Mines to establish a new generic mineral institute to study strategic and critical materials. To fund this program, the act would authorize the appropriation of such sums as may be necessary.
5. Estimated cost to the Federal Government:

(By fiscal year, in millions of dollars)

	1991	1992	1993	1994	1995
Estimated authorization level	1.5	1.6	1.6	1.7	1.8
Estimated outlays	1.0	1.5	1.6	1.7	1.7

The costs of this legislation would be in budget function 300.

Basis of Estimate: The estimated authorization level is based on the funding levels for the existing generic mineral technology centers. (There are currently six such centers, costing a total of about \$8 million a year.) The estimate of outlays is based on historical spending patterns and assumes that the full amount estimated would be appropriated for each fiscal year.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: On April 6, 1990, CBO prepared a cost estimate for H.R. 4111, as ordered reported by the House Committee on Interior and Insular Affairs on April 4, 1990. This cost estimate is identical to the earlier one.

9. Estimate prepared by: Michael Sieverts.

10. Estimate approved by: C.G. Nuckols (for James L. Blum, Assistant Director for Budget Analysis).

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in implementing H.R. 4111. The Act is not a regulatory measure in the sense of imposing government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any additional paperwork would result from the enactment of H.R. 4111.

EXECUTIVE COMMUNICATIONS

On July 24, 1990, the Committee on Energy and Natural Resources requested legislative reports from the Department of the Interior and the Office of Management and Budget setting forth executive views of H.R. 4111. These reports had not been received at the time this report was filed. When the reports become available, the chairman will request that they be printed in the Congressional Record for the advice of the Senate.

Following is the Department of the Interior's statement at the September 21, 1990, hearing:

STATEMENT OF DR. HARLAN L. WATSON, PRINCIPAL DEPUTY ASSISTANT SECRETARY—WATER AND SCIENCE, AND SCIENCE ADVISOR TO THE SECRETARY, U.S. DEPARTMENT OF THE INTERIOR

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to present the Administration's views on H.R. 4111, the Strategic and Critical Minerals Act of 1990. While the Administration has no objection to H.R. 4111, it has concerns about changes made in the House. H.R. 4111 would amend the Mining and Mineral Resources Research Institute Act of 1984 (P.L. 97-490, as amended) to authorize and direct the Secretary of the Interior to establish a Strategic Resources Mineral Technology Center for the purpose of improving existing, and developing new, technologies that will decrease the dependence of the United States on supplies of strategic and critical minerals.

The belief expressed by the authors of H.R. 4111 that new and improved technologies in the minerals area are essential has long been recognized under the authority of existing statutes. These include the organic Acts of the Bureau of Mines and the Geological Survey; the Mining and Minerals Policy Act of 1970; the National Materials and Minerals Policy, Research and Development Act of 1980; the National Critical Materials Act of 1984; the legislation authorizing the Mineral Institute Program, as amended; the Defense Production Act of 1950, as amended; and the Strategic and Critical Materials Stock Piling Act of 1939, as amended.

The Administration has requested \$4,000,000 in fiscal year 1991 for all university research grants to be competitively awarded through generic mineral technology centers (GMTCs) under the Mineral Institute Program of the Bureau of Mines. While the existing generic center structure provides for research on strategic and critical minerals, the establishment of a new generic center may be worth exploring. Consequently, within the fiscal limitations of the fiscal year 1991 budget request, the Administration does not object to H.R. 4111.

However, we do have concerns about changes made to H.R. 4111 during its consideration by the House. Specifically, H.R. 4111 was amended to establish certain criteria

for the selection of the host university for this new GMTC that are fundamentally different from the competitive grant selection process under which the GMTC system has always operated.

Such criteria in H.R. 4111 specify that the host university:

1. does not currently host a GMTC;
2. has established advanced degree programs in geology and geological engineering, and metallurgical and mining engineering;
3. has expertise in materials and advanced processing research; and
4. is located west of the 100th meridian.

While qualified universities for the competitive grants may also meet these four criteria, we do not believe competition for any grant funds is enhanced by geographic limitations or the other three criteria. The competitive grant process should be encouraged and universally applied within the GMTC structure, consistent with current practices, to avoid research duplication.

We will be happy to work with the Committee in adopting changes needed in this bill in order to promote competitiveness and flexibility in the awarding of research grants.

Mr. Chairman, this concludes my prepared statement. I shall be pleased to respond to your questions.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the Act H.R. 4111, as ordered reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in *italic*, existing law in which no change is proposed is shown in roman):

MINING AND MINERAL RESOURCES RESEARCH INSTITUTE ACT OF 1984

(98 Stat. 1536)

* * * * *

SEC. 12. STRATEGIC RESOURCES GENERIC MINERAL TECHNOLOGY CENTER

(a) *ESTABLISHMENT.*—*The Secretary of the Interior is authorized and directed to establish a Strategic Resources Mineral Technology Center (hereinafter referred to as the "center") for the purpose of improving existing, and developing new, technologies that will decrease the dependence of the United States on supplies of strategic and critical minerals.*

(b) *FUNCTIONS.*—*The center shall—*

- (1) *provide for studies and technology development in the areas of mineral extraction and refining processes, product substitution and conservation of mineral resources through recycling and advanced processing and fabrication methods;*

(2) identify new deposits of strategic and critical mineral resources; and

(3) facilitate the transfer of information, studies, and technologies developed by the center to the private sector.

(c) **CRITERIA.**—The Secretary shall establish the center referred to in subsection (a) at a university that—

(1) does not currently host a generic mineral technologies center;

(2) has established advanced degree programs in geology and geological engineering, and metallurgical and mining engineering;

(3) has expertise in materials and advanced processing research; and

(4) is located west of the 100th meridian.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There is authorized to be appropriated such sums as may be necessary to carry out this section.

